

MARKED UP VERSION OF AMENDED CLAIMS

1. (once amended) [A medical infusion pump] The medication delivery system of claim 25 further comprising:

a fluid storage chamber for storing fluid medication;

a pump outlet;]

a pump flowpath [positioned between said fluid storage chamber and said pump outlet] providing fluid communication between said fluid storage chamber and said pump outlet, wherein said pump flowpath includes a flow restriction, a drip chamber, and a sight window, said flow restriction exiting into said drip chamber and said sight window oriented to enable visual contact with said drip chamber, and wherein said flow restriction is sized to convert a continuous stream of fluid entering said flow restriction from said fluid storage chamber to a drip stream exiting said flow restriction into said drip chamber[;

a displacement piston displaceably positioned in said fluid storage chamber;

and

an elastic member engaging said displacement piston and transitionable between a more stressed position and a less stressed position to displace said displacement piston].

2. (once amended) The [pump] medication delivery system of claim 1 further comprising an outlet tube positioned beneath said flow restriction in said drip chamber separated from said flow restriction by a drip gap, wherein said outlet tube is configured to convert said drip stream exiting said flow restriction to a reverted continuous stream.

3. (once amended) The [pump] medication delivery system of claim [1] 25, wherein said elastic member is a spring.

4. (once amended) [A] The medication delivery system of claim 25 [comprising:

a) an infusion pump including,

a fluid storage chamber for storing fluid medication,

a pump outlet,

a pump flowpath providing fluid communication between said fluid storage chamber and said pump outlet,

a displacement piston displacably positioned in said fluid storage chamber, and

a spring engaging said displacement piston and transitionable between a more stressed position and a less stressed position to displace said displacement piston; and

b) a) wherein said bolus injector is positioned in series with said infusion pump[including,

a flexible bladder,

a bolus chamber enclosed by said flexible bladder,

an], said injector inlet [into said bolus chamber and] is connected to said pump outlet[,

an injector outlet out of said bolus chamber], and

said bolus injector further includes an outlet valve positioned at said injector outlet and transitionable between an open position and a closed position, wherein said outlet valve is biased to said closed position and transitioned to said open position in response to ambient pressure of fluid medication contacting said outlet valve.

5. (once amended) The system of claim [4] 25, wherein said bladder has an elastic memory to restore said bladder to an initial configuration after said bladder is deformed by compression.

6. (once amended) [A] The medication delivery system of claim 25 [comprising:

a) a) wherein said infusion pump further includes [including,

a fluid storage chamber for storing medication fluid,

a pump outlet,]

a pump flowpath providing fluid communication between said fluid storage chamber and said pump outlet, wherein said pump flowpath has a flow restriction and a drip chamber, and wherein said flow restriction is sized to convert a continuous stream of fluid entering said flow restriction from said

fluid storage chamber to a drip stream exiting said flow restriction into said drip chamber[,

a displacement piston displacably positioned in said fluid storage chamber, and

an elastic member engaging said displacement piston and transitionable between a more stressed position and a less stressed position; and

b) a) said bolus injector is positioned in series with said infusion pump including,

a flexible bladder,

a bolus chamber enclosed by said flexible bladder,

an], and said injector inlet [into said bolus chamber and] is connected to said pump outlet[, and

an injector outlet out of said bolus chamber].

9. (once amended) The system of claim [6] 25, wherein said bolus chamber has a fluid capacity substantially less than said fluid storage chamber.

10. (once amended) The system of claim [6] 25 further comprising an outlet valve positioned at said injector outlet and transitionable between an open position and a closed position, wherein said outlet valve is biased to said closed position and transitioned to said open position in response to ambient pressure of fluid medication contacting said outlet valve.

11. (once amended) [A] The medication delivery system of claim 25 [comprising:

a)] wherein said infusion pump including said fluid storage chamber, said pump outlet, said displacement piston, and said elastic member is

a [first] second infusion pump including,

a [first] second fluid storage chamber,

a [first] second pump outlet,

[a first pump flowpath providing fluid communication between said first fluid storage chamber and said first pump outlet,]

a [first] second displacement piston [displacably positioned in said first fluid storage chamber], and

a [first] second elastic member [engaging said first displacement piston and transitionable between a more stressed position and a less stressed position to displace said first displacement piston;

b)) said system further comprising a [second] first infusion pump including,

a [second] first fluid storage chamber,

a [second] first pump outlet,

[a second pump flowpath providing fluid communication between said second fluid storage chamber and said second pump outlet,]

a [second] first displacement piston displacably [positioned in] positionable to expand or contract said [second] first fluid storage chamber, and

a [second] first elastic member [engaging said second displacement piston and] transitionable between a more stressed position and a less stressed position to displace said [second] first displacement piston[;

c) a) , wherein said bolus injector is positioned in series with said second infusion pump [including,

a flexible bladder,

a bolus chamber enclosed by said flexible bladder,

an] ,and said injector inlet [into said bolus chamber and] is connected to said second pump outlet, and

[an injector outlet out of said bolus chamber;

d)) said system further comprising a junction connecting said first pump outlet with said injector outlet[; and

e)) and a common flow tube exiting said junction and in fluid communication with said first pump outlet and said injector outlet.

12. (once amended) The system of claim 11, wherein said first infusion pump further includes a first pump flowpath [has] providing fluid communication between said first fluid storage chamber and said first pump outlet, said first pump flowpath having a flow restriction and a drip chamber, and wherein said flow restriction is sized to convert a

continuous stream of fluid entering said flow restriction from said fluid storage chamber to a drip stream exiting said flow restriction into said drip chamber.

13. (once amended) The system of claim [11] 12, wherein said first pump flowpath includes a sight window oriented to enable visual contact with said drip chamber.

14. (once amended) The system of claim [11] 12 further comprising an outlet tube positioned beneath said flow restriction in said drip chamber separated from said flow restriction by a drip gap, wherein said outlet tube is configured to revert said drip stream exiting said flow restriction to a reverted continuous stream.

17. (once amended) [A] The medication delivery system of claim 25 [comprising:

a) a] wherein said pump outlet is a first pump outlet, said infusion pump further includes [including,

a fluid storage chamber,

a first pump outlet and] a second pump outlet for discharging fluid from said infusion pump in response to displacement of said displacement piston,

[a pump flowpath providing fluid communication between said fluid storage chamber and said first pump outlet,

a displacement piston displaceably positioned in said fluid storage chamber, and

an elastic member engaging said displacement piston and transitionable between a more stressed position and a less stressed position to displace said displacement piston;

b) a bolus injector including,

a flexible bladder,

a bolus chamber enclosed by said flexible bladder,

an] wherein said injector inlet [into said bolus chamber and] is connected to said second pump outlet, and

[an injector outlet out of said bolus chamber.

c)] said system further comprises a junction connecting said first pump outlet

with said injector outlet[; and

d)] and a common flow tube exiting said junction and in fluid communication with said first pump outlet and said injector outlet.

18. (once amended) The system of claim 17 wherein said infusion pump further includes a pump flowpath providing fluid communication between said fluid storage chamber and said first pump outlet, said pump flowpath having [has] a flow restriction and a drip chamber, [and] further wherein said flow restriction is sized to convert a continuous stream of fluid entering said flow restriction from said fluid storage chamber to a drip stream exiting said flow restriction into said drip chamber.

ADDITIONAL CLAIM AMENDMENTS

Cancel claims 19-24 without prejudice.

Add new claims 25-28 as follows:

25. A medication delivery system comprising:

a) an infusion pump including,

a fluid storage chamber for storing fluid medication,

a displacement piston displaceably positionable to expand or contract said fluid storage chamber,

an elastic member transitionable between a more stressed position and a less stressed position to displace said displacement piston, and

a pump outlet for discharging fluid from said infusion pump in response to displacement of said displacement piston; and

b) a bolus injector positioned downstream of said fluid storage chamber in fluid communication with said fluid storage chamber, said bolus injector including,

a flexible bladder,

a bolus chamber enclosed by said flexible bladder,

an injector inlet into said bolus chamber, and

an injector outlet from said bolus chamber.

26. A medication delivery system comprising:
- a) an infusion pump including,
 - a fluid storage chamber for storing fluid medication,
 - a displacement piston displaceably positionable to expand or contract said fluid storage chamber,
 - an elastic member transitionable between a more stressed position and a less stressed position to displace said displacement piston, and
 - a pump outlet for discharging fluid from said infusion pump in response to displacement of said displacement piston; and
 - b) a bolus injector positioned in series with said infusion pump including,
 - a flexible bladder,
 - a bolus chamber enclosed by said flexible bladder,
 - an injector inlet into said bolus chamber and connected to said pump outlet, and
 - an injector outlet from said bolus chamber.
27. A medication delivery system comprising:
- a) an infusion pump including,
 - a fluid storage chamber,
 - a displacement piston displaceably positionable to expand or contract said fluid storage chamber,
 - an elastic member transitionable between a more stressed position and a less stressed position to displace said displacement piston,
 - a first pump outlet for discharging fluid from said infusion pump in response to displacement of said displacement piston, and
 - a second pump outlet for discharging fluid from said infusion pump in response to displacement of said displacement piston; and
 - b) a bolus injector in fluid communication with said fluid storage chamber including,
 - a flexible bladder,
 - a bolus chamber enclosed by said flexible bladder,
 - an injector inlet into said bolus chamber and connected to said second

pump outlet, and
an injector outlet from said bolus chamber.

28. A medication delivery system comprising:

- a) a first infusion pump including,
 - a first fluid storage chamber,
 - a first displacement piston displaceably positionable to expand or contract said first fluid storage chamber, and
 - a first elastic member transitionable between a more stressed position and a less stressed position to displace said first displacement piston, and
 - a first pump outlet for discharging fluid from said first infusion pump in response to displacement of said first displacement piston;
- b) a second infusion pump including,
 - a second fluid storage chamber,
 - a second displacement piston displaceably positionable to expand or contract said fluid storage chamber,
 - a second elastic member transitionable between a more stressed position and a less stressed position to displace said second displacement piston, and
 - a second pump outlet for discharging fluid from said second infusion pump in response to displacement of said second displacement piston; and
- c) a bolus injector positioned in series with said second infusion pump including,
 - a flexible bladder,
 - a bolus chamber enclosed by said flexible bladder,
 - an injector inlet into said bolus chamber and connected to said second pump outlet, and
 - an injector outlet from said bolus chamber.

REMARKS

The Office Action requires a restriction to the invention of Group I, Claims 1-18, or the invention of Group II, Claims 19-24. In response to the Office Action, applicant hereby

makes an election without traverse to the invention of Group I, Claims 1-18 and newly added Claims 25-28. Accordingly, applicant cancels Claims 19-24 of Group II without prejudice.

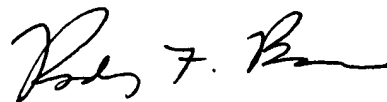
The Office Action further requires election of a single species within Group I for prosecution on the merits. In response to the Office Action, applicant hereby makes an election without traverse to the species consonant with Figures 1-4. Newly added Claim 26 as well as amended Claims are 4 and 6 and original Claims 7 and 8 are believed to be readable on the elected species. Newly added Claim 28 as well as amended Claims are 11-14 and original Claims 15 and 16 are believed to be readable on the species consonant with Figure 5. Newly added Claim 27 as well as amended Claims are 17 and 18 and original Claims 7 and 8 are believed to be readable on the species consonant with Figure 6.

Newly added Claim 25 is considered generic to the species consonant with Figures 1-4, Figure 5, and Figure 6 insofar as Claim 25 is believed to be readable on each of these species.

Conclusion

Applicant has fully complied with the restriction requirement set forth in the Office Action. The Examiner is requested to call the undersigned at (858) 272-8705 for any reason that would advance the instant application to issue.

Respectfully submitted,



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